

Chapter 5

RESOURCE REGULATION

There are several programs that the District, as well as federal, state, and local governments, may implement to protect water resources. The District's programs include permitting for both wetland protection and water resource allocation, and water shortage management.

The USEPA, through the reauthorization of the Safe Drinking Water Act, state agencies, through enacting administrative rules, and local governments, through implementing wellhead protection ordinances, strive to prevent ground water contamination. Of particular importance to the LWC Planning Area are the wellhead protection ordinances of the counties and cities in the region.

ENVIRONMENTAL RESOURCE PERMITTING

The Environmental Resource Permitting (ERP) Program deals with the construction of surface water management systems and dredge and fill activities. Surface water management systems are required for all forms of development ranging from agriculture to commercial and residential. This means that developed sites containing more impervious surfaces or altered topography, must provide a way for storm water to be directed to water management areas for water quality treatment and flood attenuation.

During the ERP process, wetlands are evaluated both on and adjacent to the project site. If wetland impacts are proposed in an ERP application, an analysis is conducted to determine if the impacts can be eliminated or reduced (Basis of Review, Vol. IV). Impacts to wetlands can occur through direct physical alteration, such as filling or dredging, or through alteration of the normal hydrologic regimes, such as lowering of the water table. All types of impacts are reviewed during the ERP process.

If the proposed wetland impacts are determined to be permissible, an applicant will need to provide compensation for the loss of the wetland functions. Generally this is accomplished through mitigation, consisting of the restoration or enhancement of existing wetlands, the creation of new wetland habitat, or a combination of these methods. The mitigation areas must be monitored and maintained over the long-term and protected with a conservation easement.

If the applicant proposes to preserve the wetlands on the project site, an analysis is conducted to determine what effects the development will have on the wetlands. An applicant must provide an upland buffer, and ensure that adequate quantities of water will be available to wetlands, and that the wetlands will not be over inundated for prolonged periods of time.

CONSUMPTIVE USE PERMITTING

The District has the authority and responsibility to establish policies for the use and regulation of water that maximize reasonable-beneficial uses that are in the public interest, as long as these policies safeguard the environment, other legal users, and water resources. These policies are implemented through intergovernmental coordination, establishment of programs, and the permitting process.

Water resources are used for many purposes including agricultural, landscape, and golf course irrigation; potable water; commercial; and industrial uses. All water withdrawals within the District require a District water use permit except: (1) water used in a single family dwelling or duplex, and provided that the water is obtained from one well for each single family dwelling or duplex, and is used either for domestic purposes or outdoor uses; (2) water used for fire fighting; and (3) the use of reclaimed water. The first exemption is provided in state legislation; the latter two are District exemptions.

The District issues water use permits in two forms, individual water use permits and general water use permits. An individual water use permit is issued for projects whose water use exceeds 100,000 gallons per day (GPD), while general permits are issued when the use does not exceed 100,000 GPD, except in reduced threshold areas. A general water use permit is issued for a duration of up to 20 years while individual permits are generally issued for a shorter period. Individual permits are issued with an expiration date that corresponds with the basin expiration date, at which time water use permits for the entire Lower West Coast Planning Area will have to be renewed. The current basin expiration date in the Lower West Coast Planning Area is December 15, 2001.

The District has issued 1,171 individual consumptive use permits in the LWC Planning Area (**Table 11**). Most of these permits are for agricultural uses.

Table 11. Individual Permit Allocations.

Water Use Category	Number of Permits	Daily Allocation (MGD)	Annual Allocation (MGY)	% of Total Allocations
Agriculture ^a	673	1358.9	496,000	50
Public Water Supply	44	154.8	56,491	6
Industrial	48	712.7	260,124	26
Recreation ^b	372	75.5	27,565	3
Mining and Dewatering	29	186.1	67,916	7
Other	5	238.8	87,164	9
Total	1,171	2726.7	995,260	100

a. Includes agriculture, aquaculture, livestock, and nursery.

b. Includes golf courses and landscape.

Source: SFWMD, 1999, Consumptive Use Permitting Program data.

Basis of Review Criteria

The consumptive use and permitting (CUP) process involves reviewing water use permits for consistency with criteria in the District's Basis of Review (BOR). Chapter 2 of the BOR, Water Need and Demand Methodologies, include criteria for demonstration of need, calculation of water demands, and water conservation requirements for the different use classes. The criteria in Chapter 3 of the BOR, Water Resource Evaluations, address the evaluation of the potential impacts to the resource, existing legal users, the environment, saline water intrusion, and movement of pollution (SFWMD, 1994).

Areas with Increased Permitting Restrictions

An increased level of consumptive use permitting restrictions is applied to areas where there is potentially a lack of water available to meet demands. These areas include Reduced Threshold Areas, Restricted Allocation Areas, Areas of Special Concern, and Water Resource Caution Areas (also known as Critical Water Supply Problem Areas).

Reduced Threshold Areas

The volume of usage that delineates a general permit from an individual permit is referred to as the permit threshold. In most of the District, the permit threshold is 100,000 GPD. The District has reduced this threshold to 10,000 GPD average or 20,000 GPD maximum in resource depleted areas, where there has been an established history of saline water movement into ground water and surface water bodies or should water be unavailable to meet projected needs of a region. These areas are referred to as Reduced Threshold Areas (RTAs). Three RTAs exist in the LWC Planning Area: Lee County, coastal Collier County, and the Muse/LaBelle area of Glades and Hendry counties. Under the District's current rulemaking effort, it is proposed to eliminate the RTA category.

Restricted Allocations Areas

Restricted Allocation Areas (RAAs) are areas designated within the District for which allocation restrictions are applied with regard to the use of specific sources of water. The water resources in these areas are managed in response to specific sources of water for which there is a lack of water availability to meet the demands of the region from that specific source of water. There are no RAAs within the LWC Planning Area; however, this designation exists in the other three planning areas.

Areas of Special Concern

Areas of Special Concern are areas where there are limitations on water availability or there are other potentially adverse impacts associated with a proposed withdrawal. These areas are determined by the District on a case-by-case basis. There are no previously designated Areas of Special Concern in the LWC Planning Area.

Water Resource Caution Areas

Water Resource Caution Areas are areas that have existing water resource problems or areas in which water resource problems are projected to develop during the next 20 years. These areas were formerly referred to as critical water supply problem areas and were required to be designated by rule by each water management district pursuant to Chapter 62-40, F.A.C. This chapter further states that applicants in these areas must make use of a reclaimed water source unless the applicant demonstrates that its use is not economically, environmentally or technologically feasible. All of the LWC Planning Area is designated as a Water Resource Caution Area. The Water Resource Implementation Rule requires that these designations be updated within one year of completion of the District Water Management Plan and its future updates.

WATER SHORTAGE MANAGEMENT

Water shortages, and the associated restrictions, are declared by the District's Governing Board when there is not enough water available for present or anticipated needs, or when a reduction in demand is needed to protect water resources. Ground water and surface water levels are continuously monitored, and if they fall to levels considered critical for the time of year and anticipated demands, then the water shortage process is initiated. There are different levels of drought, and these require corresponding levels of restrictions. Water shortage declarations range from a "warning," which has voluntary moderate restrictions, through four phases of water shortage, to an "emergency," which can restrict withdrawals up to the point of disallowing any further withdrawals from a source.

The water shortage phases reflect the percent reduction in withdrawals necessary to reduce demand to the anticipated available water supply.

The phases are:

- Phase I: Moderate - up to 15 percent reduction
- Phase II: Severe - up to 30 percent reduction
- Phase III: Extreme - up to 45 percent reduction
- Phase IV: Critical - up to 60 percent reduction.

Each declared source class is assigned a water shortage phase, and source classes can be combined if appropriate. A water shortage warning has the same restrictions associated with a Phase I, but participation is voluntary. Any of the phases of water shortage can be modified by the Governing Board if necessary. The District's Water Shortage Plan is located in Chapter 40E-21, F.A.C. (refer to Appendix A). The current water shortage procedure was originally adopted by the District in 1982. Prior to that, restrictions were made during periods of drought but did not necessarily correspond to the current requirements of the phases of water shortage. Few changes to the District's Water Shortage Plan have been made since that time. The District proposes to review the existing

restrictions to determine whether these restrictions need updating, during the current rulemaking process. A history of the water shortages declared in the LWC Planning Area is presented in **Table 12**.

WELLHEAD PROTECTION ORDINANCES

The purpose of a wellhead protection program is to protect the ground water in the vicinity of a public water supply wellfield from potential sources of contamination. A wellhead protection program entails a management process that acknowledges the relationship between activities that take place in wellfield areas and the quality of the ground water supply for those wells. A Wellhead Protection Area (WHPA) is delineated as the surface area, projected from the subsurface, surrounding a well or wellfield through which water (and potential contaminants) will pass and eventually reach the well(s). Lee and Collier counties have wellfield protection ordinances in effect.

Wellhead protection area boundaries (zones) are determined based on a variety of criteria (e.g., travel time, drawdown, distance, etc.) and methods (e.g., analytical/numerical flow models, fixed radii, etc.). Factors such as the aquifer physical characteristics, aquifer boundaries, the extent of pumping, the degree of confinement, the vulnerability of the aquifer to surface contamination, and the degree of development and land use activity surrounding the well(s) are used in the process. Because methods/criteria employed and physical conditions vary, WHPAs can range anywhere from a distance of a few hundred feet to several miles from pumping wells. Management activities commonly employed within these protection areas include regulation of land use through special ordinances and permits, prohibition of specified activities, and acquisition of land.

Federal Aquifer Protection

The first cohesive federal effort aimed at aquifer protection came in 1984, when the USEPA published its Ground Water Protection Strategy. This strategy recognized the need to prevent future ground water contamination and emphasized the protection of public water supply aquifers or those linked to unique ecosystems. As a result of this approach, federal provisions focused specifically at public water supply well protection, were adopted as part of the reauthorization of the Safe Drinking Water Act (SDWA) in 1986. This legislation established a nationwide policy to encourage states to develop systematic and comprehensive wellhead protection programs to protect public water supply areas from all man-made sources of contamination, which may cause or contribute to adverse health effects.

State, County, and City Wellhead Protection

State agencies, such as the FDEP, the Florida Department of Health (FDOH), the Department of Agriculture and Consumer Services (FDACS), and the water management districts have enacted a series of administrative rules directed towards aquifer protection. The FDEP has a number of regulations under the Florida Administrative Code which

Table 12. History of Water Shortages.

Year	Order #	Restrictions	Area Affected
1988	88-01-A 88-08	Phase I; Rescinded 88-01-A	Bonita Springs/North Naples (excluding the offshore Islands south to alligator alley)
1988	88-02 88-06	Phase I; Rescinded 88-02	Bonita Springs/North Naples (excluding the offshore Islands south to Pine Ridge Road)
1988	88-03 88-07	Phase I; Rescinded 88-03	Coastal Lee County (excluding the offshore Islands south to Coconut Road)
1988	88-04 88-09	Phase I; Rescinded 88-04	At Marco Island, within the Fakahatchee South Water Use Basin, Collier County
1988	88-05 88-10	Phase I; Rescinded 88-05	At Marco Island, within the Fakahatchee South Water Use Basin, Collier County
1989	89-01	Phase I	Lower West Coast – bounded to the North by Lee county line and to the south by Pine Ridge Rd. to the east by I-75, including the offshore Islands All areas
	92-01	Rescinded	
1989	89-02 92-01	Phase I	Marco Island, Collier County At Marco Island, within the Fakahatchee South Water Use Basin, Collier County
	89-03 92-01	Phase I; ground water	Portions of Lee County, Glades County, Hendry County, Collier County All areas
1989	89-04	Phase II	Bonita Springs/North Naples
1989	89-05 89-13	Phase I Rescinded 89-05 and 89-06	Fakahatchee South Water Use Basin
1989	89-06 89-13	Phase II Rescinded 89-05 and 89-06	At Marco Island, within the Fakahatchee South Water Use Basin, Collier County
1989	89-10	Phase I	South of Pine Ridge Rd. and east of I-75
1989	89-14 92-01	Phase I; ground and surface water	Hendry County All areas
1990	90-01	Phase III Agriculture	EAA/Lake Shore Perimeter
1990	90-02	Phase I; Nonagriculture	EAA/Lake Shore Perimeter (see also 90-10 & 90-27)
1990	90-04	Phase I; surface water	Portions of Hendry County Caloosahatchee Basin
1990	90-05	Phase I; ground water	Portions of Collier County (Bonita Springs); Caloosahatchee River Watershed
1990	90-06	Phase II; surface water	Portions of Hendry County Caloosahatchee River
1990	90-07 90-27	Phase I; ground and surface water Modified Phase I	Bonita Springs/North Naples; Portions of Lee and Collier County; Caloosahatchee River Watershed- South Water use Basin
1990	90-08	Phase I; ground water	Western Lee County; Caloosahatchee River Water Use Basin, including Watershed North and Watershed South Water Use Basins
1990	90-10	Modified previous orders to exclude the recirculating fountains	
1990	90-13	Phase II; agricultural uses of ground water	Portions of Glades and Hendry County in the Caloosahatchee River Watershed North Water Use Basin

Table 12. (Continued) History of Water Shortages.

Year	Order #	Restrictions	Area Affected
1990	90-14	Phase II; ground and surface water	Portions of Lee and Collier Counties including Coastal Collier County Water Use Basin and Caloosahatchee River Watershed - South Water use Basin; Bonita Springs/North Naples
1990	90-15 90-27	Phase I; ground and surface water Modified Phase I	Coastal Collier County; Caloosahatchee River Watershed-North and south Water Use Basin
1990	90-23	Phase II; ground and surface water	Lee County in the Caloosahatchee River Basin and its Watershed North and South Water Use
1990	90-24 90-27	Phase I; ground and surface water Modified Phase I	Portions of West Lee County in the Caloosahatchee River Basin and its Watershed North and South Water Use
1990	90-27 92-01		Modified 90-15, 90-24 and 90-07 to a Modified Phase I
1990	90-28	Rescinded 90-16 and 90-25	
1990	90-29 92-01		Modified WS Order 90-27 to change Golf Course Irrigation schedule Sept. 13, 1990
1991	91-01 92-01	Phase I; ground and surface water	Coastal Collier County Water Use Basin and Caloosahatchee River Watershed South Water Use Basin (Bonita Springs/ North Naples)
1991	91-04 92-01	Specific Restrictions	Order rescinding 92-01 and Declaring Modified Phase I Restriction within the coastal Collier County Water Use Basin and the Caloosahatchee River Watershed South Water Use Basin (92-01 rescinded 25 water shortage orders)
1992	92-03 93-45	Phase I; ground water and surface water Warning	Coastal Collier County (Bonita Springs and North Naples) and Caloosahatchee River Watershed South Water Use Basin Declaration of Water Shortage Warning within the coastal Collier County Water Use Basin, the Fakahatchee South Water Use Basin, the Fakahatchee North Water Use Basin, the Caloosahatchee River Water Use Basin, the Caloosahatchee River Watershed-North Water Use Basin, the Caloosahatchee River Watershed-South Water use Basin
1992	92-04	Phase I; ground water and surface water	Coastal Collier County Water Use Basin, Fakahatchee North and South Water Use Basin
1997	97-30	Phase I; Surficial Aquifer System	
1999	99-29	Phase I; ground water and surface water	Caloosahatchee River Water Use Basin, Caloosahatchee River Watershed South, Caloosahatchee River Watershed North, South-Hendry County/L-28 Gap Water Use Basin, Fakahatchee North Water Use Basin, Fakahatchee South Water Use Basin, Coastal Collier County Water Use Basin

function to regulate activities, such as hazardous and solid waste, storm water discharge, storage tank systems, etc. The primary goal of these legislative policies, aimed at aquifer protection, is to prevent problems before they occur as contrasted to correcting or providing remedial action for preexisting problems.

The intent of these ordinances is to protect and safeguard the health, safety, and welfare of the public by providing criteria for regulating and prohibiting the use, handling,

production and storage of certain harmful substances which may impair present and future public water supply wells and wellfields.